


Vidarbha Youth Welfare Society's  
**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**  
Borgaon (Meghe), Wardha (M.S.)

**MECHANISM OF INTERNAL ASSESSMENT IS  
TRANSPARENT AND ROBUST IN TERMS OF  
FREQUENCY AND MODE**




  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

**Vidarbha Youth Welfare Society's**  
**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**  
**Borgaon (Meghe), Wardha (M.S.)**

**TABLE OF CONTENT**

| <b>Sr. No.</b> | <b>Documents</b>  | <b>Page number</b> |
|----------------|---|--------------------|
| 1.             | Examination policy  | 1                  |
| 2.             | Continuous internal evaluation guidelines                           | 2-4                |
| 3.             | Internal examination sample schedule                                | 5-6                |
| 4.             | Internal question paper sample – Theory and Practical               | 7-8                |
| 5.             | Internal examination assessment sheet sample - Theory and Practical | 9-29               |
| 6.             | Internal exam attendance sheet - Theory and Practical               | 30-33              |
| 7.             | Result sheet sample   | 34-39              |
| 8.             | Continuous mode assessment sample                                   | 40-45              |



  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha


**Vidarbha Youth Welfare Society's**  
**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**  
**Borgaon (Meghe), Wardha (M.S.)**

---

**2.5.1 Mechanism of internal assessment is transparent and robust in terms of frequency and mode. Write description within 200 words**

The college has tools for internal assessment such as unit test, open book test, and assignment test conducted by individual teachers from time to time, attendance will be monitor for every month as well as before every sessional exam and each time students are informed about their short attendance, students are also assessing on the basis of project, theory sessional examination, practical examination, and viva-voce. The institution ensures transparency in internal assessment by using above mentioned tool for the assessment of the students and the outcomes are communicated to them. The faculty members give personal and academic counselling to the students. For evaluating the overall development of the students, due weightage is given to behavioural aspect, independent learning and communication skills.



  
**(Dr. R. O. Ganjiwale)**  
**Principal**  
**PRINCIPAL**  
**Institute of Pharmaceutical Education & Research**  
**Borgaon (Meghe), Wardha**

## CONTINUOUS INTERNAL EVALUATION GUIDELINES

### Internal assessment: Continuous mode

The marks allocated for Continuous mode of Internal Assessment shall be awarded as per the scheme given below.

**Table-XI: Scheme for awarding internal assessment: Continuous mode**

| Theory  |               |          |
|---|---------------|----------|
| Criteria  | Maximum Marks |          |
| Attendance (Refer Table – XII)  | 4             | 2        |
| Academic activities (Average of any 3 activities e.g. quiz, assignment, open book test, field work, group discussion and seminar) | 3             | 1.5      |
| Student – Teacher interaction   | 3             | 1.5      |
| <b>Total</b>  | <b>10</b>     | <b>5</b> |
| Practical   |               |          |
| Attendance (Refer Table – XII)  | 2             |          |
| Based on Practical Records, Regular viva voce, etc.   | 3             |          |
| <b>Total</b>  | <b>5</b>      |          |

**Table- XII: Guidelines for the allotment of marks for attendance**

| Percentage of Attendance | Theory | Practical |
|--------------------------|--------|-----------|
| 95 – 100                 | 4      | 2         |
| 90 – 94                  | 3      | 1.5       |
| 85 – 89                  | 2      | 1         |
| 80 – 84                  | 1      | 0.5       |
| Less than 80             | 0      | 0         |

### Sessional Exams

Two Sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the college(s). The scheme of question paper for theory and practical Sessional examinations is given below. The average marks of two Sessional exams shall be computed for internal assessment as per the requirements given in tables – X.

Sessional exam shall be conducted for 30 marks for theory and shall be computed for 15 marks. Similarly Sessional exam for practical shall be conducted for 40 marks and shall be computed for 10 marks.

### Question paper pattern for theory Sessional examinations

#### For subjects having University examination

|  |   |             |
|--|---|-------------|
| I. Multiple Choice Questions (MCQs)                            | = | 10 x 1 = 10 |
| OR   |   | OR          |
| Objective Type Questions (5 x 2)<br>(Answer all the questions) | = | 05 x 2 = 10 |
| I. Long Answers (Answer 1 out of 2)                            | = | 1 x 10 = 10 |
| II. Short Answers (Answer 2 out of 3)                          | = | 2 x 5 = 10  |

Total = -----  
30 marks



**For subjects having Non University Examination**

|                                       |   |             |
|---------------------------------------|---|-------------|
| I. Long Answers (Answer 1 out of 2)   | = | 1 x 10 = 10 |
| II. Short Answers (Answer 4 out of 6) | = | 4 x 5 = 20  |
|                                       |   | -----       |
| Total                                 | = | 30 marks    |
|                                       |   | -----       |

**Question paper pattern for practical sessional examinations**

|                 |   |          |
|-----------------|---|----------|
| I. Synopsis     | = | 10       |
| II. Experiments | = | 25       |
| III. Viva voce  | = | 05       |
|                 |   | -----    |
| Total           | = | 40 marks |
|                 |   | -----    |

**1. Promotion and award of grades**

A student shall be declared PASS and eligible for getting grade in a course of B.Pharm. program if he/she secures at least 50% marks in that particular course including internal assessment. For example, to be declared as PASS and to get grade, the student has to secure a minimum of 50 marks for the total of 100 including continuous mode of assessment and end semester theory examination and has to secure a minimum of 25 marks for the total 50 including internal assessment and end semester practical examination.

**2. Carry forward of marks**

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified in 12, then he/she shall reappear for the end semester examination of that course. However his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.


**3. Improvement of internal assessment**

A student shall have the opportunity to improve his/her performance only once in the Sessional exam component of the internal assessment. The re-conduct of the Sessional exam shall be completed before the commencement of next end semester theory examinations.

**4. Re-examination of end semester examinations**

Reexamination of end semester examinations shall be conducted as per the schedule given in table XIII. The exact dates of examinations shall be notified from time to time.



  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

**Table-XIII: Tentative schedule of end semester examinations**

| Semester            | For Regular Candidates | For Failed Candidates |
|---------------------|------------------------|-----------------------|
| I, III, V and VII   | November / December    | May / June            |
| II, IV, VI and VIII | May / June             | November / December   |

**Question paper pattern for end semester theory examinations**

**For 75 marks paper**

- I. Multiple Choice Questions(MCQs) = 20 x 1 = 20  
OR  
Objective Type Questions (10 x 2) = 10 x 2 = 20  
(Answer all the questions)
- II. Long Answers (Answer 2 out of 3) = 2 x 10 = 20
- III. Short Answers (Answer 7 out of 9) = 7 x 5 = 35

Total = 75 marks

**For 50 marks paper**

- I. Long Answers (Answer 2 out of 3) = 2 x 10 = 20
- II. Short Answers (Answer 6 out of 8) = 6 x 5 = 30

Total = 50 marks

**For 35 marks paper**

- I. Long Answers (Answer 1 out of 2) = 1 x 10 = 10
- II. Short Answers (Answer 5 out of 7) = 5 x 5 = 25


Total = 35 marks

**Question paper pattern for end semester practical examinations**

- I. Synopsis = 5
- II. Experiments = 25
- III. Viva voce = 5

Total = 35 marks



  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**

Borgaon (Meghe) Wardha

**SECOND SESSIONAL EXAMINATION ( THEORY ), 2023-24**

**B.PHARM - Sem -VII**

**\*\*\*\*\* TIME - TABLE \*\*\*\*\***

| Day & Date                     | Time                     | Class            | Subject                          |
|--------------------------------|--------------------------|------------------|----------------------------------|
| <b>WEDNESDAY</b><br>01/11/2023 | 11.00 A.M. TO 12.00 P.M. | B. Pharm SEM-VII | PHARMACY PRACTICE                |
| <b>THURSDAY</b><br>02/11/2023  | 11.00 A.M. TO 12.00 P.M. | B. Pharm SEM-VII | INDUSTRIAL PHARMACY              |
| <b>FRIDAY</b><br>03/11/2023    | 11.00 A.M. TO 12.00 P.M. | B. Pharm SEM-VII | NOVEL DRUG DELIVERY SYSTEM       |
| <b>SATURDAY</b><br>04/11/2023  | 11.00 A.M. TO 12.00 P.M. | B. Pharm SEM-VII | INSTRUMENTAL METHODS OF ANALYSIS |

( Ms. S. P. Gautam/ Dr. B. R. Gandhare )

Exam-in-Charge

Copy to:-

1. Examination in Charge
2. Notice Board
3. Notice Board File
4. Office Copy

( Dr. R. O. Ganjivale )  
Principal

Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha,



**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**  
Borgaon (Meghe) Wardha  
**SECOND SESSIONAL PRACTICAL EXAMINATION, 2023-2024**  
**B. PHARM- (SEM-VII )**

**TIME - T A B L E**

| DAY & DATE                     | TIME                     | CLASS   | BATCH | SUBJECT                          |
|--------------------------------|--------------------------|---------|-------|----------------------------------|
| <b>MONDAY</b><br>09/10/2023    | 12.30 P.M. TO 04.30 P.M. | Sem-VII | A     | INSTRUMENTAL METHODS OF ANALYSIS |
| <b>TUESDAY</b><br>10/10/2023   | 12.30 P.M. TO 04.30 P.M. | Sem-VII | B     | INSTRUMENTAL METHODS OF ANALYSIS |
| <b>WEDNESDAY</b><br>11/10/2023 | 12.30 P.M. TO 04.30 P.M. | Sem-VII | C     | INSTRUMENTAL METHODS OF ANALYSIS |

*Sadhana*

( Ms. S. P. Gautam )  
Exam-in-Charge  
Copy to:-

1. Examination in Charge
2. Notice Board
3. Notice Board File
4. Office Copy



*[Signature]*  
( Dr. R. O. Ganjivale )  
Principal

Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha,



Institute of Pharmaceutical Education and Research, Wardha  
B. Pharm.

SECOND SESSIONAL EXAM-2023 (Question Paper)

Subject: [ BP701T ] Instrumental Methods of Analysis - Theory

Marks: 30  
Minutes

Date: 4 November, 2023

Duration: 60

Note:

1. Attempt all questions from Que. No. 1. Each for 2 marks
2. Attempt Any ONE question from Que. No. 2 for 10 marks
3. Attempt Any TWO questions from Que. No. 3. Each of 5 marks
4. Use of calculators is permitted

Que. No. 1] Attempt All Questions (5 x 2 = 10 marks)

a) Define the terms Capacity factor, Selectivity factor, Retention time and Dead time in chromatography.

**Bloom's Level:** Evaluate, Apply, Understand, Remember **Course Outcome:** CO3

b) Define the term HETP and explain its correlation with the theoretical plates.

**Bloom's Level:** Evaluate, Understand, Remember **Course Outcome:** CO3

c) Explain Fermi's Resonance with example.

**Bloom's Level:** Evaluate, Understand **Course Outcome:** CO1

d) How many Translational, Rotational and Vibrational degrees of freedom are there for:

(i) Linear CO<sub>2</sub> molecule

(ii) Non-linear H<sub>2</sub>S molecule

**Bloom's Level:** Remember **Course Outcome:** CO1, CO2

e) Discuss the 2D technique of development in TLC.

**Bloom's Level:** Create, Apply, Understand **Course Outcome:** CO4

Que. No. 2] Attempt Any ONE question from the following: (1x10 = 10 marks)

a) Sketch well labelled diagram of Gas chromatographic unit. Write in brief on columns and stationary phases. Write note on Thermal Conductivity Detector used in GC. (2 + 5 + 3)

**Bloom's Level:** Apply, Remember **Course Outcome:** CO5

b) Discuss in brief the various factors affecting the vibrational frequency in IR Spectroscopy.

**Bloom's Level:** Create, Understand **Course Outcome:** CO1

Que. No. 3] Attempt Any TWO questions from the following: (2 x 5 = 10 marks)

a) Sketch well labelled diagram of HPLC unit, and write in brief on Reciprocating Pump OR Bulk Property Detector. (2 + 3)

**Bloom's Level:** Apply, Remember **Course Outcome:** CO5

b) Describe various development techniques in Paper Chromatography.

**Bloom's Level:** Create, Apply, Understand **Course Outcome:** CO4

c) Describe the various factors that affect electrophoretic mobility in Electrophoresis. (5.00

Marks)

**Bloom's Level:** Understand **Course Outcome:** CO6



(Dr. R. O. Ganjiwale)

Principal

PRINCIPAL

Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

Pratik  
27.11.23



INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH<sup>CII</sup>  
Borgaon (Meghe), Wardha

SECOND SESSIONAL PRACTICAL EXAMINATION 2023-2024

B. PHARM-IV (SEM-VII)

SUBJECT: Instrumental Method of Analysis (Practical)

Time: 4hrs

Date: 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> Oct 2023

Max. Marks: 40

Instruction: 1) Solve all questions

Que.No. 1 Synopsis

(5x2=10M)

Batch 'A'

- Explain the principle of HPLC?
- Draw schematic diagram of GC?
- Differentiate between TLC and HPTLC?
- What are some of the applications of Infrared spectroscopy?
- Enlist most widely used carrier gases and detectors in Gas chromatography?

Batch 'B'

- How does UV- Visible spectroscopy work?
- Differentiate between Adsorption and Partition Chromatography?
- Enlist factors that affect electrophoretic mobility?
- What are the applications of Column chromatography?
- What are advantages and applications of HPLC Technique?

Batch 'C'

- Explain the principle of HPLC?
- Draw schematic diagram of GC?
- Write short note on ion exchange chromatography?
- Classify different chromatographic technique?
- What are the advantages and application of IR spectroscopy?

Q. NO. 2

(25M)


To perform assay of Paracetamol tablet as per IP by Reference Standard Method.

Q. NO. 3

Viva-Voce

(05M)



  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



b) → HETP -

It is the height equivalent to theoretical plates.

It is defined as the length of column divided by the no. of theoretical plates.

- As the theoretical plates increases the height of column decreases in constant column length.

$$\text{HETP} = \frac{L}{N}$$

where,  $L$  = length of column

$N$  = no. of theoretical plates

c) → Fermi's resonance -

It is the coupling between fundamental vibration <sup>one</sup> and overtone <sup>of</sup> of some other vibration called Fermi's resonance.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



Example of Fermi's resonance

In aldehyde,

The C-H stretching vibrations of CHO group, interacts with the second harmonic level, of deformation vibration resulting of -CHO group ( $2 \times 1400 \text{ cm}^{-1}$ ) resulting into fermi doublet in the range of  $1380 - 1280 \text{ cm}^{-1}$  in spectra.

d) →

0



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

e) → 2D technique of development in TLC -

- In this technique, the TLC plate is used must be square shaped.
- The TLC plate first placed in the chamber of first solvent system as normal TLC placed.
- Then after the first solvent system completes, the TLC plate is removed dried and then further applied for 2<sup>nd</sup> solvent system.
- In this, the TLC plate is rotated counter clockwise direction. Then plate is placed in 2<sup>nd</sup> solvent system and after that the 2<sup>nd</sup> development of plate occurs.
- This development used for the separation of mixture of components in TLC.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

Q.2)

b) → Factors affecting vibrational frequency in IR Spectroscopy -

① Effect of Bond orders -

- The bond orders affects the position of absorption band in IR.
- The higher bond orders increases the stretching frequency of absorption band.
- In  $C=C$  the stretching frequency is higher than  $C-C$  and  $C-C$  stretches at  $1200-800\text{ cm}^{-1}$ .
- In  $C\equiv N$  the stretching frequency is higher than  $C=N$  and in  $C=O$  stretching frequency is higher than that of  $C-N$ .

② Vibrational coupling -

- An isolated  $C-H$  shows only one type of stretching frequency.
- $C-H$  bond in  $CH_2$  group shows two types of stretching frequency one is symmetrical and another is antisymmetrical.
- In  $C-H$  bond of  $CH_3$  group also symmetrical and antisymmetrical type of stretching frequency observed.
- $C-H$  bond in  $CH_2$  group and  $C-H$  bond in  $CH_3$  group stretches at diff<sup>n</sup> frequency.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



-Vibrational Coupling occurs between two bonds vibrating with the same frequency, and they are reasonably close in the molecule.  
- The vibrations may be both fundamental or fundamental vibrations with overtone of some other vibrations.

In CO<sub>2</sub> group, two C=O bonds with common carbon atom present.

- In these two types of fundamental stretching vibrations observed one is symmetrical and other antisymmetrical.

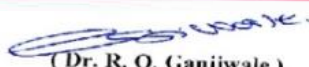
- In symmetrical, the C=O either stretches or contracts and absorption band shifts towards longer  $\lambda$  than that of carbonyl group. (IR inactive)

- In antisymmetrical the C=O stretches and contracts and absorption band shifts towards lower  $\lambda$  side than carbonyl group. (IR active)

### ③ Fermi's Resonance -

It is discovered by Enrico Fermi on the account of shifting of energies and intensities of absorption band in IR spectroscopy.



  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

- It is the coupling between fundamental vibration and overtone of some other vibration called Fermi resonance.

- In CHO group,

- C-H stretching vibration in CHO group, interacts with second harmonic level of deformation vibration of C-CHO group ( $2 \times 1400 \text{ cm}^{-1}$ ) resulting in Fermi doublet occurs at  $1280 - 1285 \text{ cm}^{-1}$ .

④ Hydrogen bonding -

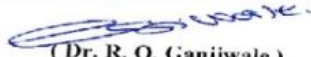
- Hydrogen bonding affects the position and shape of absorption band.

- There are two types of hydrogen bonding, Intermolecular and intramolecular.

- In intramolecular H.B, occurs between the hydrogen bond of same molecule and lone pair electron of same molecule.

- In Intermolecular H.B, occurs between hydrogen of one molecule and electronegative element of other molecule resulting in association.



  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



- The intermolecular H.B depends upon concentration of solution. (7.1)

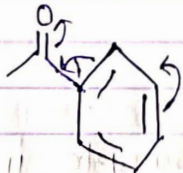
- The -OH stretching frequency in 100% solution occurs at  $3550\text{ cm}^{-1}$  and in dilute solution occurs at  $3650\text{ cm}^{-1}$ .

### ⑤ Electronic effect

- conjugation lowers the frequency in C=O and C=C stretching vibration.

- The delocalization of  $\pi$  electrons in C=O and in ring, increases the double bond character in ring.

- This results in decrease bond order which lowers the force constant and hence, lowering of stretching frequency by  $20-30\text{ cm}^{-1}$ .



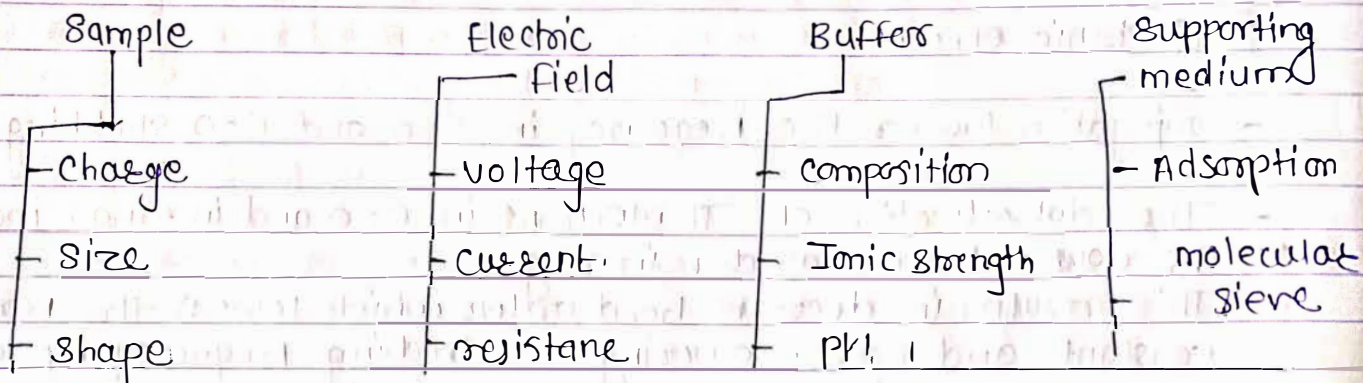
- This effect attributed because of mesomeric effect.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

Q.3)

c) → factors affecting electrophoretic mobility :-



① Sample -

- a) Charge - As the net charge of sample increases the rate of migration increases.
- b) Size - As the size of particle increases, the frictional and electrostatic force increases leading to decrease in rate of migration.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

c) Shape - As shape <sup>of particle</sup> of particle changes migration rate also changes.

② Electric field - By ohm's law,  
 $V = \text{Current} \times \text{Resistance}$

a) Voltage - Increase in P.D or voltage increases the rate of migration of particles.

b) Current - Increase in current increases rate of migration of particle.

c) Resistance - Increase in resistance decreases rate of migration of particle.

③ Buffers -

a) composition - acetate buffers  
potassium EDTA buffers  
Phosphate buffers

b) pH - pH increases ionization increases.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



c) Ionic strength - Ionic strength increases - The proportion of sample current through sample decreases and hence migration rate of particle decreases.  
As ionic strength decreases, the proportion of current passes through sample increases and hence increases the rate of migration of particles.

④ Supporting medium -

a) Adsorption - Increase in adsorption increases retention of particles in solution and hence rate of migration of particles decreases.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

a) →

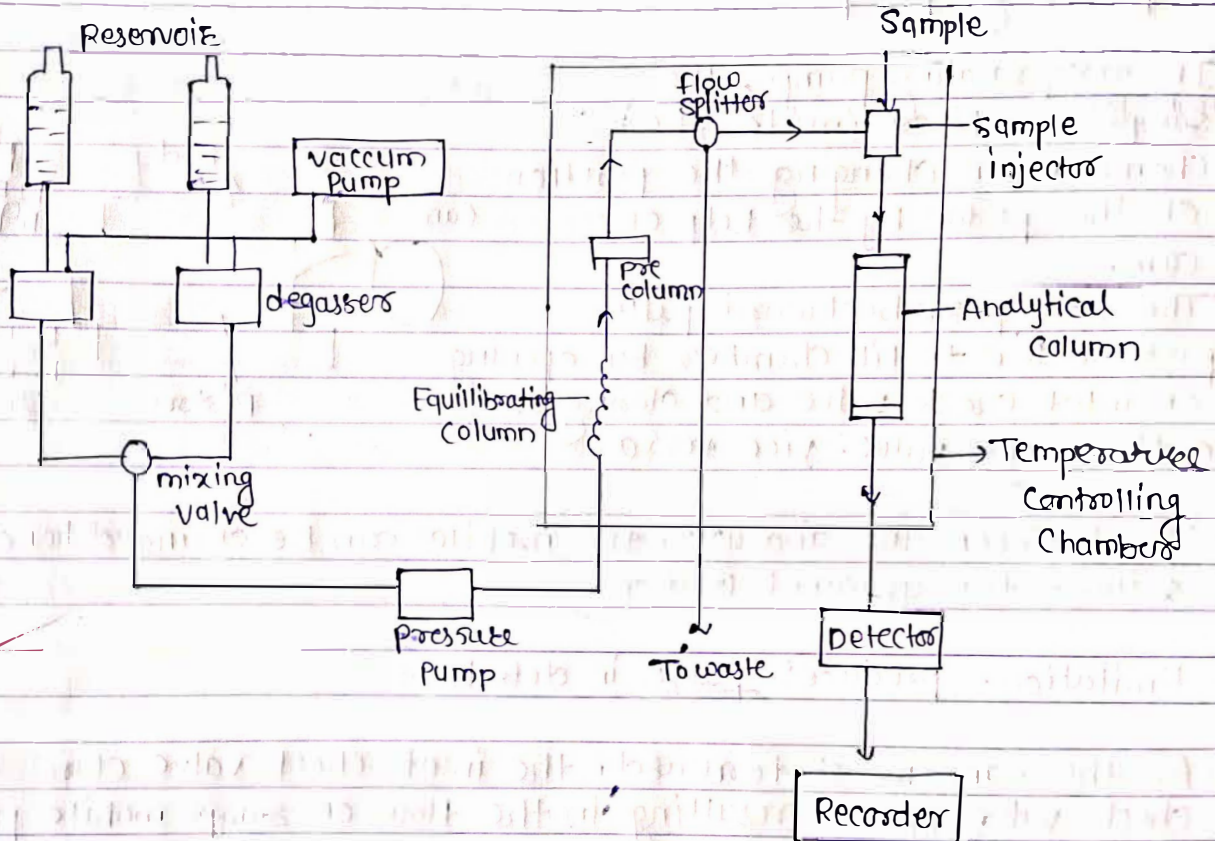


fig:- HPLC Unit

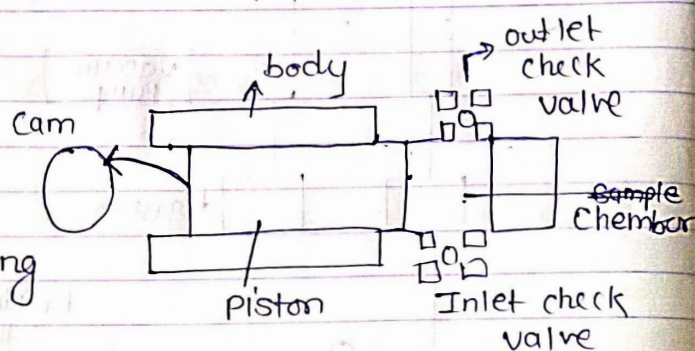


(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

## Reciprocating pump -

- In reciprocating pump, the <sup>mobile phase</sup> sample is filled inside the chamber by changing the position of the piston by the help of cam.

- The cam push backward pulls piston allow to fill chambers by opening of inlet check valve and closing of outlet check valve. vice versa.



- In between the analysis, the mobile can be changed hence suitable for gradient elution.

- limitation - produces pulse in detector.

- As the cam moves forward, the inlet check valve closes and outlet check valve opens resulting in the flow of ~~sample~~ mobile phase outside the pump with high pressure.



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Bargaon (Meghe), Wardha




Bulk property detector -

⊕ Refractive index detector -

- It works on change in the R.I of mobile phase. It detects the R.I of mobile phase.
- It is not suitable for gradient elution.
  - It is less sensitive than other detectors.
  - The changing of mobile phase in between analysis alters R.I and hence, interfere with detector response.



  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

Vidarbha Youth Welfare Society's  
**INSTITUTE OF PHARMACEUTICAL EDUCATION & RESEARCH**  
**WARDHA**

*R. O. Ganjiwale*

**PRACTICAL EXAMINATION**

Second Sessional

Name Krushnali Sunil Thakare Examination Seat No. 15 Examination Practical Exam

Class B.Ph-IV (Sem-III) Subject Instrumental Methods of Analysis Date 09/10/2023 Signature of the Supervisor

| Q. No. | 1 | 2 | 3 | 4 | 5 | 6 | TOTAL |
|--------|---|---|---|---|---|---|-------|
| MARKS  |   |   |   |   |   |   |       |

*R. O. Ganjiwale*  
 09/10/23

Start Writing answer below this line.

| Sr. No. | Contents         | Maximum Marks | Marks Obtained |
|---------|------------------|---------------|----------------|
| 1)      | Synopsis         | 10M           | 06             |
| 2)      | Major Experiment | 25M           | 19.5           |
| 3)      | viva-voce        | 05M           | 3.5            |
|         | Total            | 40M           |                |

29  
 40

- Q.1) Synopsis
- Explain the principle of HPLC
  - Draw schematic diagram of GC.
  - Differentiate between TLC and HPTLC
  - What are some of the applications of Infra-red Spectroscopy.
  - Enlist most widely used carrier gases and detectors in Gas chromatography.



*R. O. Ganjiwale*  
 (Dr. R. O. Ganjiwale)  
 Principal  
**PRINCIPAL**  
 Institute of Pharmaceutical Education & Research  
 Borgaon (Meghe), Wardha

a) → principle of HPLC -

- In High performance liquid chromatography the separation is taken by between the two phases of mixture components on the basis of their affinity.
- After the sample injection through the rubber septum to the injector by syringe the required sample then passed through column.
- This column filled with liquid mobile phase which is pelute through column by means of pressurised pump.
- This pressurised pump reduces the retention time of sample into column.
- Increases the efficiency by decreasing the time and increase reproducibility.

b) →

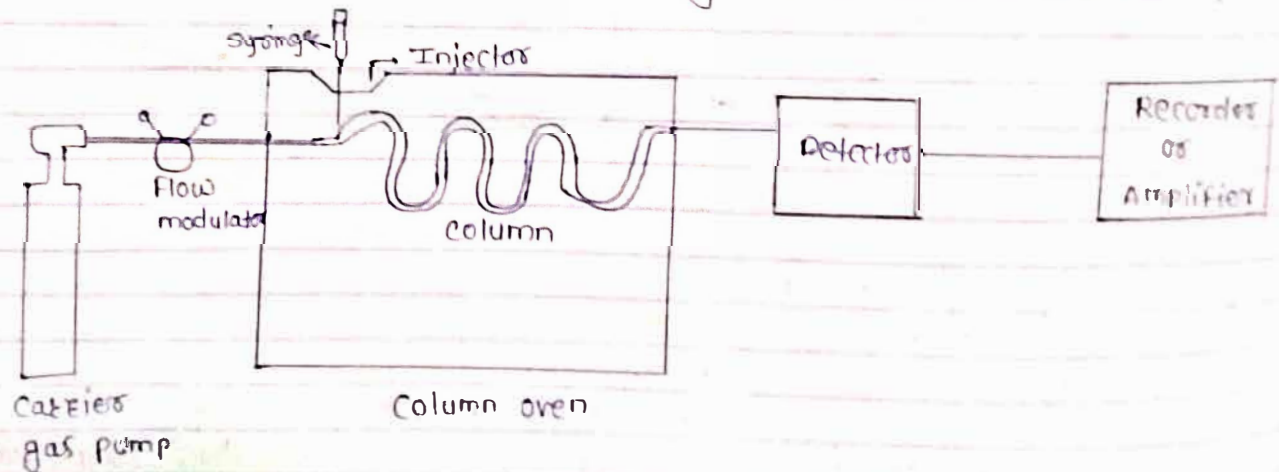


Fig. - Schematic diagram of GC



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

c) →

| TLC   | HPTLC  |
|---|--|
| <ul style="list-style-type: none"> <li>- Thin layers chromatography, consist of TLC plate which run under the influence of capillary action.</li> <li>- In TLC, silica or activated charcoal used as a stationary phase on glass or aluminium plate.</li> <li>- It provides less precise results</li> </ul> | <ul style="list-style-type: none"> <li>- In HPTLC, there is use of column enclosed in sophisticated manners connected with software programming.</li> <li>- In HPTLC, various size graded high efficiency columns are utilised.</li> <li>- It provides more precise results</li> </ul> |

d) → IR used in Radar region.  
 IR spectroscopy used in identification of various components.



(Dr. R. O. Ganjiwale)  
 Principal  
 PRINCIPAL  
 Institute of Pharmaceutical Education & Research  
 Borgaon (Meghe), Wardha



e) → carrier gases

- Hydrogen, Helium, Lithium, Argon, Nitrogen

Detectors

- Thermal conductivity detector
- Thermionic detector
- flame Ionization detector
- Electron capture detector



*Dr. R. O. Ganjwale*  
(Dr. R. O. Ganjwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



Vidarbha Youth Welfare Society's  
**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**

**WARDHA**

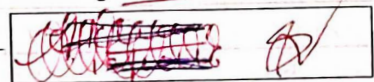
Examination Seat No. 15

Subject Instrumental methods of Analysis

Signature of the Supervisor

Supplement No. \_\_\_\_\_

Date 09/10/2023



Start Writing answer below this line.

Q.2) Major Experiment

Aim:- To perform assay of paracetamol tablet as per IP by reference standard method.

Observation :-


- 1) Marketed paracetamol tablet
- a) weight of tablet = 11.94 gm
  - b) Average wt. of tablet = 0.597 gm
  - c) label claim = 0.500 gm

d)  $\frac{0.597 \text{ gm}}{0.597 \text{ gm}} \rightarrow \frac{x \text{ gm}}{0.150 \text{ gm}}$  of tablet powder paracetamol = 0.500 gm of paracetamol

$$x = \frac{0.597 \times 0.150}{0.500}$$

$x = \underline{\underline{0.179 \text{ gm}}}$



  
 (Dr. R. O. Ganjiwale)  
 Principal  
 PRINCIPAL  
 Institute of Pharmaceutical Education & Research  
 Borgaon (Mghe), Wardha

Absorbance of Reference = 0.325

Absorbance of Sample = 0.281

Calculation of Tablet Content -

$$\begin{aligned}\text{Tablet Content} &= \frac{A_{257 \text{ nm}}(\text{Sample})}{A_{257 \text{ nm}}(\text{Reference})} \times \frac{\text{Reference Sample wt. of Sample taken}}{\text{wt. of Sample taken}} \times \frac{\text{Avg. wt. of tablet}}{\text{Label claim}} \\ &= \frac{0.281}{0.325} \times \frac{0.150}{0.179} \times \frac{0.597}{0.500} \\ &= 0.86 \times 0.8379 \times 1.194 \\ &= \underline{\underline{0.859 \text{ gm}}}\end{aligned}$$

$$\begin{aligned}\% \text{ Paracetamol} &= \frac{A_{257 \text{ nm}}(\text{Sample})}{A_{257 \text{ nm}}(\text{Reference})} \times \frac{\text{wt. of Reference Sample}}{\text{wt. of Sample taken}} \times \frac{\text{Avg. wt. of tablet}}{\text{Label claim}} \times 100 \\ &= \frac{0.281}{0.325} \times \frac{0.150}{0.179} \times \frac{0.597}{0.500} \times 100\end{aligned}$$



*(Signature)*  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

$$= 0.859 \times 0.8379 \times 1.194 \times 100$$

$$= \underline{\underline{85.84 \%}}$$

Result :-

1) The content of paracetamol of given paracetamol tablet was found to be 0.859 gm

2) The % purity of given sample of 500mg of paracetamol tablet as per IP was found to be 85.84%



*R. O. Ganjiwale*  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Mehar), Wardha

# INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH

Borgaon (Meghe), Wardha  
First / Second Sessional Attendance Sheet 2023 - 2024  
B.PHARM - IV ( SEM-VII)

Theory / Practical

Subject : Instrumental Methods of Analysis

Date : 04/11/2023

| Sr. No.          | Name of Students    | Signature          |
|------------------|---------------------|--------------------|
| <b>BATCH:'A'</b> |                     |                    |
| 1                | Ku. A. M. Kolhe     | <i>[Signature]</i> |
| 2                | Ku. A. N. Shaikh    | <i>[Signature]</i> |
| 3                | Ku. A. P. Gote      | <i>[Signature]</i> |
| 4                | Ku. A. S. Talware   | <i>[Signature]</i> |
| 5                | Ku. A. S. Tinghase  | <i>[Signature]</i> |
| 6                | Ku. B. P. Thakare   | <i>[Signature]</i> |
| 7                | Ku. C. R. Shende    | <i>[Signature]</i> |
| 8                | Ku. D. N. Mandaokar | <i>[Signature]</i> |
| 9                | Ku. E. U. Kotharkar | <i>[Signature]</i> |
| 10               | Ku. G. S. Kawle     | <i>[Signature]</i> |
| 11               | Ku. I. S. Borkar    | <i>[Signature]</i> |
| 12               | Ku. J. S. Satone    | <i>[Signature]</i> |
| 13               | Ku. K. D. Bele      | <i>[Signature]</i> |
| 14               | Ku. K. R. Raut      | <i>[Signature]</i> |
| 15               | Ku. K. S. Thakare   | <i>[Signature]</i> |
| 16               | Ku. L. S. Mahajan   | <i>[Signature]</i> |
| 17               | Ku. M. G. Sayam     | <i>[Signature]</i> |
| 18               | Ku. M. N. Hatwar    | <i>[Signature]</i> |
| 19               | Ku. M. R. Verma     | <i>[Signature]</i> |
| 20               | Ku. P. R. Umate     | <i>[Signature]</i> |
| 21               | Ku. P. V. Lanjekar  | <i>[Signature]</i> |
| 22               | Ku. R. K. Umathe    | <i>[Signature]</i> |
| 23               | Ku. R. M. Shidodkar | <i>[Signature]</i> |
| 24               | Ku. R. P. Deshpande | <i>[Signature]</i> |
| 25               | Ku. R. S. Khurpade  | <i>[Signature]</i> |
| <b>BATCH:'B'</b> |                     |                    |
| 26               | Ku. R. S. Raut      | <i>[Signature]</i> |
| 27               | Ku. R. V. Bhale     | <i>[Signature]</i> |
| 28               | Ku. S. M. Yadav     | <i>[Signature]</i> |
| 29               | Ku. S. N. Deshmukh  | <i>[Signature]</i> |
| 30               | Ku. S. P. Tapre     | <i>[Signature]</i> |
| 31               | Ku. S. R. Chahande  | <i>[Signature]</i> |
| 32               | Ku. S. R. Thakare   | <i>[Signature]</i> |
| 33               | Ku. S. R. Tiwari    | <i>[Signature]</i> |
| 34               | Ku. S. S. Ahirrao   | <i>[Signature]</i> |

Room No. 311  
Present student - 36  
Absent student - 04  
Total - 40

} *[Signature]*  
04.11.23



*[Signature]*  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



|            |     |           |             |                |
|------------|-----|-----------|-------------|----------------|
| 35         | Ku. | S. S.     | Misalkar    | <del>MSK</del> |
| 36         | Ku. | S. S.     | Nimbalkar   | <del>MSK</del> |
| 37         | Ku. | S. T.     | Yedlawar    | <del>MSK</del> |
| 38         | Ku. | S. V.     | Bhoyar      | <del>MSK</del> |
| 39         | Ku. | S. V.     | Dhok        | <del>MSK</del> |
| 40         | Ku. | Sakshi N. | Raut        | <del>MSK</del> |
| 41         | Ku. | Shreya S. | Raut        | <del>MSK</del> |
| 42         | Ku. | T. R.     | Dhage       | <del>MSK</del> |
| 43         | Ku. | T. R.     | Hukum       | <del>MSK</del> |
| 44         | Ku. | T. U.     | Moon        | <del>MSK</del> |
| 45         | Ku. | U. S.     | Gawande     | <del>MSK</del> |
| 46         | Ku. | V. A.     | Kshirsagar  | <del>MSK</del> |
| 47         | Ku. | V. D.     | More        | <del>MSK</del> |
| 48         | Ku. | V. D.     | Shrivastava | <del>MSK</del> |
| 49         | Ku. | V. N.     | Deshmukh    | <del>MSK</del> |
| 50         | Ku. | V. R.     | Sushir      | <del>MSK</del> |
| BATCH: 'C' |     |           |             |                |
| 51         | Ku. | Y. D.     | Kude        | <del>MSK</del> |
| 52         | Mr. | A. C.     | Darda       | <del>MSK</del> |
| 53         | Mr. | A. K.     | Kinhekar    | <del>MSK</del> |
| 54         | Mr. | A. N.     | Dahake      | <del>MSK</del> |
| 55         | Mr. | G. M.     | Sukhadiya   | <del>MSK</del> |
| 56         | Mr. | H. C.     | Butale      | <del>MSK</del> |
| 57         | Mr. | J. S.     | Kadu        | <del>MSK</del> |
| 58         | Mr. | M. A.     | Hydri       | <del>MSK</del> |
| 59         | Mr. | N. O.     | Dhanbhat    | <del>MSK</del> |
| 60         | Mr. | N. S.     | Chhajed     | <del>MSK</del> |
| 61         | Mr. | O. P.     | Patte       | <del>MSK</del> |
| 62         | Mr. | P. M.     | Zade        | <del>MSK</del> |
| 63         | Mr. | P. S.     | Waghe       | <del>MSK</del> |
| 64         | Mr. | P. S.     | Wanare      | <del>MSK</del> |
| 65         | Mr. | R. G.     | Bongade     | <del>MSK</del> |
| 66         | Mr. | R. G.     | Prabhakar   | <del>MSK</del> |
| 67         | Mr. | R. R.     | Magar       | <del>MSK</del> |
| 68         | Mr. | R. S.     | Dhumale     | <del>MSK</del> |
| 69         | Mr. | R. S.     | Jawade      | <del>MSK</del> |
| 70         | Mr. | S. B.     | Fulmali     | <del>MSK</del> |
| 71         | Mr. | S. C.     | Borkar      | <del>MSK</del> |
| 72         | Mr. | S. D.     | Dahare      | <del>MSK</del> |
| 73         | Mr. | S. H.     | Gawali      | <del>MSK</del> |
| 74         | Mr. | S. R.     | Bokade      | <del>MSK</del> |
| 75         | Mr. | T. M.     | Khade       | <del>MSK</del> |
| 76         | Mr. | Y. M.     | Karlekar    | <del>MSK</del> |
| 77         | Mr. | Y. R.     | Kondawar    | <del>MSK</del> |

Room No - 313

Present = 35  
Absent = 02

*(Signature)*  
04/12/23

(Dr. R. O. Ganjwale)  
Principal

# INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH

Borgaon (Meghe), Wardha

First / Second Sessional Attendance Sheet 2023 - 2024

B.PHARM - IV ( SEM-VII)

Theory / Practical

Subject: Instrumental method of analysis  
Practical.

Date: 9-10-23.

| Sr. No.           | Name of Students    | Signature              |
|-------------------|---------------------|------------------------|
| <b>BATCH: 'A'</b> |                     |                        |
| 1                 | Ku. A. M. Kolhe     | <i>A. M. Kolhe</i>     |
| 2                 | Ku. A. N. Shaikh    | <i>A. N. Shaikh</i>    |
| 3                 | Ku. A. P. Gote      | <i>A. P. Gote</i>      |
| 4                 | Ku. A. S. Talware   | <i>A. S. Talware</i>   |
| 5                 | Ku. A. S. Tinghase  | <i>A. S. Tinghase</i>  |
| 6                 | Ku. B. P. Thakare   | <i>B. P. Thakare</i>   |
| 7                 | Ku. C. R. Shende    | <i>C. R. Shende</i>    |
| 8                 | Ku. D. N. Mandaokar | <i>D. N. Mandaokar</i> |
| 9                 | Ku. E. U. Kotharkar | <i>E. U. Kotharkar</i> |
| 10                | Ku. G. S. Kawle     | AB                     |
| 11                | Ku. I. S. Borkar    | <i>I. S. Borkar</i>    |
| 12                | Ku. J. S. Satone    | AB                     |
| 13                | Ku. K. D. Bele      | <i>K. D. Bele</i>      |
| 14                | Ku. K. R. Raut      | <i>K. R. Raut</i>      |
| 15                | Ku. K. S. Thakare   | <i>K. S. Thakare</i>   |
| 16                | Ku. L. S. Mahajan   | <i>L. S. Mahajan</i>   |
| 17                | Ku. M. G. Sayam     | <i>M. G. Sayam</i>     |
| 18                | Ku. M. N. Hatwar    | <i>M. N. Hatwar</i>    |
| 19                | Ku. M. R. Verma     | <i>M. R. Verma</i>     |
| 20                | Ku. P. R. Umate     | <i>P. R. Umate</i>     |
| 21                | Ku. P. V. Lanjekar  | <i>P. V. Lanjekar</i>  |
| 22                | Ku. R. K. Umathe    | <i>R. K. Umathe</i>    |
| 23                | Ku. R. M. Shidodkar | <i>R. M. Shidodkar</i> |
| 24                | Ku. R. P. Deshpande | AB                     |
| 25                | Ku. R. S. Khurpade  | <i>R. S. Khurpade</i>  |
| <b>BATCH: 'B'</b> |                     |                        |
| 26                | Ku. R. S. Raut      | <i>R. S. Raut</i>      |
| 27                | Ku. R. V. Bhale     | <i>R. V. Bhale</i>     |
| 28                | Ku. S. M. Yadav     | <i>S. M. Yadav</i>     |
| 29                | Ku. S. N. Deshmukh  | <i>S. N. Deshmukh</i>  |
| 30                | Ku. S. P. Tapre     | <i>S. P. Tapre</i>     |
| 31                | Ku. S. R. Chahande  | <i>S. R. Chahande</i>  |
| 32                | Ku. S. R. Thakare   | <i>S. R. Thakare</i>   |
| 33                | Ku. S. R. Tiwari    | <i>S. R. Tiwari</i>    |
| 34                | Ku. S. S. Ahirrao   | <i>S. S. Ahirrao</i>   |


Total No. of Students = 71  
 Present = 72  
 Absent = 05

*AA*  
14/10/23



|            |     |           |             |                  |
|------------|-----|-----------|-------------|------------------|
| 35         | Ku. | S. S.     | Misalkar    | <del>_____</del> |
| 36         | Ku. | S. S.     | Nimbalkar   | <del>_____</del> |
| 37         | Ku. | S. T.     | Yedlawar    | <del>_____</del> |
| 38         | Ku. | S. V.     | Bhoyar      | <del>_____</del> |
| 39         | Ku. | S. V.     | Dhok        | <del>_____</del> |
| 40         | Ku. | Sakshi N. | Raut        | <del>_____</del> |
| 41         | Ku. | Shreya S. | Raut        | <del>_____</del> |
| 42         | Ku. | T. R.     | Dhage       | <del>_____</del> |
| 43         | Ku. | T. R.     | Hukum       | <del>_____</del> |
| 44         | Ku. | T. U.     | Moon        | <del>_____</del> |
| 45         | Ku. | U. S.     | Gawande     | <del>_____</del> |
| 46         | Ku. | V. A.     | Kshirsagar  | <del>_____</del> |
| 47         | Ku. | V. D.     | More        | <del>_____</del> |
| 48         | Ku. | V. D.     | Shrivastava | <del>_____</del> |
| 49         | Ku. | V. N.     | Deshmukh    | <del>_____</del> |
| 50         | Ku. | V. R.     | Sushir      | <del>_____</del> |
| BATCH: 'C' |     |           |             |                  |
| 51         | Ku. | Y. D.     | Kude        | <del>_____</del> |
| 52         | Mr. | A. C.     | Darda       | <del>_____</del> |
| 53         | Mr. | A. K.     | Kinhekar    | <del>_____</del> |
| 54         | Mr. | A. N.     | Dahake      | <del>_____</del> |
| 55         | Mr. | G. M.     | Sukhadiya   | <del>_____</del> |
| 56         | Mr. | H. C.     | Butale      | <del>_____</del> |
| 57         | Mr. | J. S.     | Kadu        | <del>_____</del> |
| 58         | Mr. | M. A.     | Hydri       | <del>_____</del> |
| 59         | Mr. | N. O.     | Dhanbhat    | <del>_____</del> |
| 60         | Mr. | N. S.     | Chhajed     | <del>_____</del> |
| 61         | Mr. | O. P.     | Patte       | <del>_____</del> |
| 62         | Mr. | P. M.     | Zade        | <del>_____</del> |
| 63         | Mr. | P. S.     | Waghe       | <del>_____</del> |
| 64         | Mr. | P. S.     | Wanare      | <del>_____</del> |
| 65         | Mr. | R. G.     | Bongade     | <del>_____</del> |
| 66         | Mr. | R. G.     | Prabhakar   | <del>_____</del> |
| 67         | Mr. | R. R.     | Magar       | <del>_____</del> |
| 68         | Mr. | R. S.     | Dhumale     | <del>_____</del> |
| 69         | Mr. | R. S.     | Jawade      | <del>_____</del> |
| 70         | Mr. | S. B.     | Fulmali     | <del>_____</del> |
| 71         | Mr. | S. C.     | Borkar      | <del>_____</del> |
| 72         | Mr. | S. D.     | Dahare      | <del>_____</del> |
| 73         | Mr. | S. H.     | Gawali      | <del>_____</del> |
| 74         | Mr. | S. R.     | Bokade      | <del>_____</del> |
| 75         | Mr. | T. M.     | Khade       | <del>_____</del> |
| 76         | Mr. | Y. M.     | Karlekar    | <del>_____</del> |
| 77         | Mr. | Y. R.     | Kondawar    | <del>_____</del> |



  
 (Dr. R. O. Ganjwale)  
 Principal  
 PRINCIPAL  
 Institute of Pharmaceutical Education & Research  
 Bargaon (Meghe), Wardha

## INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH

Borgaon (Meghe), Wardha

1<sup>st</sup> Sessional Examination : 2023-24D.Pharm \_\_\_ B.Pharm IV (Sem. VII) M.Pharm \_\_\_ (Sem. \_\_\_)

## RESULT SHEET

Subject : Instrumental Methods of Analysis Max. Marks 30

| Exam. Seat No. | Marks Obtained question-wise |         |         |   |   |   | Total Marks<br>30 |
|----------------|------------------------------|---------|---------|---|---|---|-------------------|
|                | 1(10)                        | 2(10)   | 3(10)   | 4 | 5 | 6 |                   |
| 1              | 2 1/2 ✓                      | 8 1/4 ✓ | 4 1/4 ✓ |   |   |   | 15 ✓              |
| 2              | 8 1/2 ✓                      | 7 ✓     | 7 ✓     |   |   |   | 22 1/2 ✓          |
| 3              | 2 ✓                          | 7 ✓     | 7 1/2 ✓ |   |   |   | 16 1/2 ✓          |
| 4              | 4 1/2 ✓                      | 6 ✓     | 6 ✓     |   |   |   | 12 1/2 ✓          |
| 5              | 1 1/2 ✓                      | 6 1/2 ✓ | 7 1/2 ✓ |   |   |   | 15 1/2 ✓          |
| 6              | 0 ✓                          | 7 ✓     | 3 3/4 ✓ |   |   |   | 10 3/4 ✓          |
| 7              | 3 3/4 ✓                      | 7 1/2 ✓ | 6 3/4 ✓ |   |   |   | 18 ✓              |
| 8              | A                            | B       | S       | E | N | T | -                 |
| 9              | 5 3/4 ✓                      | 7 1/2 ✓ | 7 1/2 ✓ |   |   |   | 20 3/4 ✓          |
| 10             | A                            | B       | S       | E | N | T | -                 |
| 11             | 3 ✓                          | 6 1/2 ✓ | 2 ✓     |   |   |   | 11 1/2 ✓          |
| 12             | A                            | B       | S       | E | N | T | -                 |
| 13             | 4 ✓                          | 7 1/2 ✓ | 8 1/2 ✓ |   |   |   | 20 ✓              |
| 14             | 5 ✓                          | 7 1/2 ✓ | 7 1/2 ✓ |   |   |   | 20 ✓              |
| 15             | 6 1/2 ✓                      | 7 ✓     | 8 ✓     |   |   |   | 21 1/2 ✓          |
| 16             | 3 ✓                          | 7 ✓     | 6 ✓     |   |   |   | 16 ✓              |
| 17             | 2 1/2 ✓                      | 7 ✓     | 7 1/2 ✓ |   |   |   | 17 ✓              |
| 18             | 2 3/4 ✓                      | 7 ✓     | 3 1/2 ✓ |   |   |   | 13 1/4 ✓          |
| 19             | 2 3/4 ✓                      | 7 ✓     | 7 ✓     |   |   |   | 16 3/4 ✓          |
| 20             | 5 1/2 ✓                      | 6 ✓     | 7 1/2 ✓ |   |   |   | 19 ✓              |
| 21             | 0 ✓                          | 4 1/4 ✓ | 3 ✓     |   |   |   | 7 1/4 ✓           |
| 22             | 2 1/2 ✓                      | 7 ✓     | 4 ✓     |   |   |   | 13 1/2 ✓          |
| 23             | 5 3/4 ✓                      | 4 ✓     | 7 1/2 ✓ |   |   |   | 17 1/4 ✓          |
| 24             | A                            | B       | S       | E | N | T | -                 |
| 25             | 2 3/4 ✓                      | 6 ✓     | 4 ✓     |   |   |   | 12 3/4 ✓          |
| 26             | 1 1/4 ✓                      | 7 1/2 ✓ | 6 1/4 ✓ |   |   |   | 15 ✓              |
| 27             | 2 1/4 ✓                      | 7 ✓     | 3 ✓     |   |   |   | 12 1/4 ✓          |
| 28             | 4 3/4 ✓                      | 7 ✓     | 7 1/4 ✓ |   |   |   | 19 ✓              |
| 29             | 3 1/2 ✓                      | 7 ✓     | 7 ✓     |   |   |   | 17 1/2 ✓          |
| 30             | 1/2 ✓                        | 4 ✓     | 0 ✓     |   |   |   | 4 1/2 ✓           |
| 31             | 3 ✓                          | 6 1/2 ✓ | 5 3/4 ✓ |   |   |   | 15 1/4 ✓          |

Absent Number 8, 10, 12, 24Signature of Examiner : [Signature]Date 6.11.23



**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH****Borgaon (Megho), Wardha**

I/II/Sessional Examination : 2023-24

D.Pharm \_\_\_ B.Pharm IV (Sem. VII) M.Pharm \_\_\_ (Sem. \_\_\_)**RESULT SHEET**Subject : Instrumental Methods of Analysis ..... Max. Marks 30

| Exam. Seat No. | Marks Obtained question-wise    |                                 |                                 |   |   |   | Total Marks<br>30                |
|----------------|---------------------------------|---------------------------------|---------------------------------|---|---|---|----------------------------------|
|                | 1(10)                           | 2(10)                           | 3(10)                           | 4 | 5 | 6 |                                  |
| 32             | 3 <sup>3</sup> / <sub>4</sub> ✓ | 5 <sup>1</sup> / <sub>4</sub> ✓ | 7 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 16 <sup>1</sup> / <sub>2</sub> ✓ |
| 33             | 1 <sup>1</sup> / <sub>2</sub> ✓ | 6 ✓                             | 4 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 12 ✓                             |
| 34             | 3 <sup>3</sup> / <sub>4</sub> ✓ | 6 ✓                             | 7 ✓                             |   |   |   | 16 <sup>3</sup> / <sub>4</sub> ✓ |
| 35             | 6 ✓                             | 6 <sup>1</sup> / <sub>2</sub> ✓ | 7 ✓                             |   |   |   | 19 <sup>1</sup> / <sub>2</sub> ✓ |
| 36             | 2 ✓                             | 6 <sup>1</sup> / <sub>2</sub> ✓ | 3 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 12 ✓                             |
| 37             | 4 <sup>3</sup> / <sub>4</sub> ✓ | 7 ✓                             | 7 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 19 <sup>1</sup> / <sub>4</sub> ✓ |
| 38             | 0 ✓                             | 3 ✓                             | 3 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 6 <sup>1</sup> / <sub>2</sub> ✓  |
| 39             | 5 <sup>1</sup> / <sub>2</sub> ✓ | 6 ✓                             | 6 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 18 ✓                             |
| 40             | 2 <sup>1</sup> / <sub>4</sub> ✓ | 7 ✓                             | 5 <sup>3</sup> / <sub>4</sub> ✓ |   |   |   | 15 ✓                             |
| 41             | 1 ✓                             | 5 <sup>1</sup> / <sub>2</sub> ✓ | 5 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 12 ✓                             |
| 42             | 8 <sup>1</sup> / <sub>2</sub> ✓ | 5 ✓                             | 8 ✓                             |   |   |   | 21 <sup>1</sup> / <sub>2</sub> ✓ |
| 43             | 4 ✓                             | 8 ✓                             | 7 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 19 <sup>1</sup> / <sub>2</sub> ✓ |
| 44             | 3 ✓                             | 6 ✓                             | 8 ✓                             |   |   |   | 17 ✓                             |
| 45             | A                               | B                               | C                               | E | N | T | -                                |
| 46             | 2 <sup>1</sup> / <sub>2</sub> ✓ | 8 ✓                             | 7 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 18 ✓                             |
| 47             | 6 <sup>1</sup> / <sub>2</sub> ✓ | 7 ✓                             | 8 ✓                             |   |   |   | 21 <sup>1</sup> / <sub>2</sub> ✓ |
| 48             | 6 ✓                             | 7 ✓                             | 8 ✓                             |   |   |   | 21 ✓                             |
| 49             | 7 <sup>3</sup> / <sub>4</sub> ✓ | 7 <sup>1</sup> / <sub>2</sub> ✓ | 8 ✓                             |   |   |   | 23 <sup>1</sup> / <sub>4</sub> ✓ |
| 50             | 3 ✓                             | 6 ✓                             | 8 ✓                             |   |   |   | 17 ✓                             |
| 51             | 6 <sup>1</sup> / <sub>2</sub> ✓ | 8 <sup>1</sup> / <sub>4</sub> ✓ | 8 ✓                             |   |   |   | 22 <sup>3</sup> / <sub>4</sub> ✓ |
| 52             | 1 <sup>1</sup> / <sub>4</sub> ✓ | 1 <sup>1</sup> / <sub>2</sub> ✓ | 4 ✓                             |   |   |   | 5 <sup>3</sup> / <sub>4</sub> ✓  |
| 53             | 1 ✓                             | 4 ✓                             | 4 ✓                             |   |   |   | 9 ✓                              |
| 54             | 2 ✓                             | 7 ✓                             | 3 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 12 <sup>1</sup> / <sub>2</sub> ✓ |
| 55             | 1 ✓                             | 8 ✓                             | 8 ✓                             |   |   |   | 17 ✓                             |
| 56             | 3 <sup>3</sup> / <sub>4</sub> ✓ | 7 <sup>1</sup> / <sub>2</sub> ✓ | 4 ✓                             |   |   |   | 15 <sup>1</sup> / <sub>4</sub> ✓ |
| 57             | 4 ✓                             | 1 ✓                             | 5 ✓                             |   |   |   | 10 ✓                             |
| 58             | 1 <sup>3</sup> / <sub>4</sub> ✓ | 7 <sup>1</sup> / <sub>2</sub> ✓ | 4 ✓                             |   |   |   | 13 <sup>1</sup> / <sub>4</sub> ✓ |
| 59             | 1 <sup>1</sup> / <sub>4</sub> ✓ | 6 <sup>3</sup> / <sub>4</sub> ✓ | 7 ✓                             |   |   |   | 15 ✓                             |
| 60             | 1 ✓                             | 3 ✓                             | 4 <sup>1</sup> / <sub>2</sub> ✓ |   |   |   | 8 <sup>1</sup> / <sub>2</sub> ✓  |
| 61             | 1 ✓                             | 7 <sup>1</sup> / <sub>2</sub> ✓ | 4 ✓                             |   |   |   | 12 <sup>1</sup> / <sub>2</sub> ✓ |
| 62             | 1 <sup>3</sup> / <sub>4</sub> ✓ | 7 ✓                             | 6 <sup>1</sup> / <sub>4</sub> ✓ |   |   |   | 15 ✓                             |

Absent Number 45Signature of Examiner : PranavilDate 6 XI 23











# INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH

Borgaon (Meghe), Wardha

III/Sessional Examination : Practical 23-24  
 D.Pharm \_\_\_\_\_ B.Pharm IV (Sem. VII) M.Pharm \_\_\_\_\_ (Sem. \_\_\_\_\_)

## RESULT SHEET

Subject : Instrumental method of Analysis ..... Max. Marks 40M.....

| Exam. Seat No. | Marks Obtained question-wise |           |        |   |   |   | Total Marks<br>40M |
|----------------|------------------------------|-----------|--------|---|---|---|--------------------|
|                | Q-1-10M                      | Q-2-25M   | Q-3-5M | 4 | 5 | 6 |                    |
| 51             | 6.5                          | 19.5      | 0.3    |   |   |   | 29                 |
| 52             | 02                           | 20        | 02     |   |   |   | 24                 |
| 53             | 4.5                          | 20        | 2.5    |   |   |   | 27                 |
| 54             | 04                           | 19        | 03     |   |   |   | 26                 |
| 55             | 07                           | 20        | 04     |   |   |   | 31                 |
| 56             | 05                           | 20        | 03     |   |   |   | 28                 |
| 57             | 1.5                          | 20        | 1.5    |   |   |   | 23                 |
| 58             | 03                           | 20        | 02     |   |   |   | 25                 |
| 59             | 1.5                          | 19.5      | 02     |   |   |   | 23                 |
| 60             | 3.5                          | 20        | 2.5    |   |   |   | 26                 |
| 61             | 02                           | 19        | 02     |   |   |   | 23                 |
| 62             | 3.5                          | 20        | 2.5    |   |   |   | 26                 |
| 63             | 6.5                          | 20        | 2.5    |   |   |   | 29                 |
| 64             | 04                           | 19        | 02     |   |   |   | 25                 |
| 65             | 06                           | 20        | 03     |   |   |   | 29                 |
| 66             | 07                           | 20        | 03     |   |   |   | 30                 |
| 67             | 1.5                          | 20        | 1.5    |   |   |   | 23                 |
| 68             | <u>AB</u>                    | <u>AB</u> | -      | - | - | - | <u>AB</u>          |
| 69             | 01                           | 20        | 01     |   |   |   | 22                 |
| 70             | 03                           | 19        | 03     |   |   |   | 25                 |
| 71             | 01                           | 18        | 01     |   |   |   | 20                 |
| 72             | 04                           | 20        | 03     |   |   |   | 27                 |
| 73             | 01                           | 18        | 01     |   |   |   | 20                 |
| 74             | 02                           | 17        | 01     |   |   |   | 20                 |
| 75             | 3.5                          | 20        | 2.5    |   |   |   | 26                 |
| 76             | 04                           | 20        | 03     |   |   |   | 27                 |
| 77             | 3.5                          | 18.5      | 02     |   |   |   | 24                 |
|                |                              |           |        |   |   |   |                    |
|                |                              |           |        |   |   |   |                    |
|                |                              |           |        |   |   |   |                    |
|                |                              |           |        |   |   |   |                    |

Absent Number 01Signature of Examiner : [Signature]Date 12/10/23

**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**

Borgaon (Meghe) Wardha

**SECOND SESSIONAL EXAMINATION, 2023-2024**

B.PHARM - IV ( SEM -VII)  
\*\*\* RESULT - SHEET \*\*\*

| Sr. No. | Name of Students    | Instrumental Methods of Analysis | Industrial Pharmacy II | Pharmacy Practice | Novel Drug Delivery System | Total | Result |
|---------|---------------------|----------------------------------|------------------------|-------------------|----------------------------|-------|--------|
| 1       | Ku. A. M. Kolhe     | 15                               | 20.5                   | 23                | 19                         | 77.5  | PASS   |
| 2       | Ku. A. N. Shaikh    | 22.5                             | 24                     | 24                | 21                         | 91.5  | PASS   |
| 3       | Ku. A. P. Gote      | 16.5                             | 20                     | 20                | 18                         | 74.5  | PASS   |
| 4       | Ku. A. S. Talware   | 12.5                             | 17.5                   | 20                | 17                         | 67    | FAIL   |
| 5       | Ku. A. S. Tinghase  | 15.5                             | 11                     | 20                | 17.5                       | 64    | FAIL   |
| 6       | Ku. B. P. Thakare   | 10.75                            | 18                     | 21                | 12.5                       | 62.25 | FAIL   |
| 7       | Ku. C. R. Shende    | 18                               | 21                     | 21                | 19                         | 79    | PASS   |
| 8       | Ku. D. N. Mandaokar | AB                               | 16                     | 20                | 13.5                       | 49.5  | FAIL   |
| 9       | Ku. E. U. Kotharkar | 20.75                            | 20                     | 21                | 20                         | 81.75 | PASS   |
| 10      | Ku. G. S. Kawle     | AB                               | AB                     | 0                 | AB                         | 0     | FAIL   |
| 11      | Ku. I. S. Borkar    | 11.5                             | 21                     | 21                | 19                         | 72.5  | FAIL   |
| 12      | Ku. J. S. Satone    | AB                               | AB                     | 0                 | AB                         | 0     | FAIL   |
| 13      | Ku. K. D. Bele      | 20                               | 22.5                   | 24                | 20                         | 86.5  | PASS   |
| 14      | Ku. K. R. Raut      | 20                               | 24.5                   | 26                | 22                         | 92.5  | PASS   |
| 15      | Ku. K. S. Thakare   | 21.5                             | 26.5                   | 26                | 25                         | 99    | PASS   |
| 16      | Ku. L. S. Mahajan   | 16                               | 23                     | 24                | 24.5                       | 87.5  | PASS   |
| 17      | Ku. M. G. Sayam     | 17                               | 19.5                   | 24                | 24.5                       | 85    | PASS   |
| 18      | Ku. M. N. Hatwar    | 13.25                            | 20.5                   | 22                | 19                         | 74.75 | FAIL   |
| 19      | Ku. M. R. Verma     | 16.75                            | 22.5                   | 25                | 21.5                       | 85.75 | PASS   |
| 20      | Ku. P. R. Umate     | 19                               | 26                     | 22                | 19                         | 86    | PASS   |
| 21      | Ku. P. V. Lanjekar  | 7.25                             | 10                     | 16                | 13.5                       | 46.75 | FAIL   |
| 22      | Ku. R. K. Umathe    | 13.5                             | 17.5                   | 21                | 21                         | 73    | FAIL   |
| 23      | Ku. R. M. Shidodkar | 17.25                            | 22.5                   | 24                | 23                         | 86.75 | PASS   |
| 24      | Ku. R. P. Deshpande | AB                               | AB                     | 0                 | AB                         | 0     | FAIL   |
| 25      | Ku. R. S. Khurpade  | 12.75                            | 18                     | 20                | 18.5                       | 69.25 | FAIL   |
| 26      | Ku. R. S. Raut      | 15                               | 16.5                   | 22                | 17.5                       | 71    | PASS   |
| 27      | Ku. R. V. Bhale     | 12.25                            | 24                     | 21                | 23                         | 80.25 | FAIL   |
| 28      | Ku. S. M. Yadav     | 19                               | 24.5                   | 26                | 24.5                       | 94    | PASS   |
| 29      | Ku. S. N. Deshmukh  | 17.5                             | 21                     | 25                | 22                         | 85.5  | PASS   |
| 30      | Ku. S. P. Tapre     | 4.5                              | 13                     | 15                | 10.5                       | 43    | FAIL   |



*(Signature)*  
(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



|    |                       |       |      |    |      |       |      |
|----|-----------------------|-------|------|----|------|-------|------|
| 31 | Ku. S. R. Chahande    | 15.25 | 17.5 | 21 | 22.5 | 76.25 | PASS |
| 32 | Ku. S. R. Thakare     | 16.5  | 17   | 24 | 18.5 | 76    | PASS |
| 33 | Ku. S. R. Tiwari      | 12    | 19   | 23 | 19   | 73    | FAIL |
| 34 | Ku. S. S. Ahirrao     | 16.75 | 19   | 21 | 22   | 78.75 | PASS |
| 35 | Ku. S. S. Misalkar    | 19.5  | 23.5 | 22 | 23.5 | 88.5  | PASS |
| 36 | Ku. S. S. Nimbalkar   | 12    | 17   | 19 | 22   | 70    | FAIL |
| 37 | Ku. S. T. Yedlawar    | 19.25 | 21   | 22 | 21   | 83.25 | PASS |
| 38 | Ku. S. V. Bhoyar      | 6.5   | 12.5 | 19 | 7.5  | 45.5  | FAIL |
| 39 | Ku. S. V. Dhok        | 18    | 24   | 25 | 23   | 90    | PASS |
| 40 | Ku. Sakshi N Raut     | 15    | 21   | 18 | 17   | 71    | PASS |
| 41 | Ku. Shreya S Raut     | 12    | 16   | 18 | 17.5 | 63.5  | FAIL |
| 42 | Ku. T. R. Dhage       | 21.5  | 20.5 | 20 | 20.5 | 82.5  | PASS |
| 43 | Ku. T. R. Hukum       | 19.5  | 23   | 23 | 25   | 90.5  | PASS |
| 44 | Ku. T. U. Moon        | 17    | 15   | 22 | 21   | 75    | PASS |
| 45 | Ku. U. S. Gawande     | AB    | AB   | 0  | AB   | 0     | FAIL |
| 46 | Ku. V. A. Kshirsagar  | 18    | 18.5 | 21 | 18.5 | 76    | PASS |
| 47 | Ku. V. D. More        | 21.5  | 20   | 23 | 25   | 89.5  | PASS |
| 48 | Ku. V. D. Shrivastava | 21    | 23   | 23 | 28   | 95    | PASS |
| 49 | Ku. V. N. Deshmukh    | 23.25 | 21   | 26 | 20.5 | 90.75 | PASS |
| 50 | Ku. V. R. Sushir      | 17    | 24   | 22 | 23   | 86    | PASS |
| 51 | Ku. Y. D. Kude        | 22.75 | 23   | 20 | 25.5 | 91.25 | PASS |
| 52 | Mr. A. C. Darda       | 5.75  | 9.5  | 16 | 14.5 | 45.75 | FAIL |
| 53 | Mr. A. K. Kinhekar    | 9     | 12.5 | 14 | 15.5 | 51    | FAIL |
| 54 | Mr. A. N. Dahake      | 12.5  | 12.5 | 18 | 13   | 56    | FAIL |
| 55 | Mr. G. M. Sukhadiya   | 17    | 21   | 23 | 21.5 | 82.5  | PASS |
| 56 | Mr. H. C. Butale      | 15.25 | 15   | 14 | 19   | 63.25 | FAIL |
| 57 | Mr. J. S. Kadu        | 10    | 4    | 18 | 11.5 | 43.5  | FAIL |
| 58 | Mr. M. A. Hydri       | 13.25 | 19   | 21 | 16   | 69.25 | FAIL |
| 59 | Mr. N. O. Dhanbhate   | 15    | 16.5 | 22 | 13.5 | 67    | FAIL |
| 60 | Mr. N. S. Chhajed     | 8.5   | 16   | 18 | 20   | 62.5  | FAIL |
| 61 | Mr. O. P. Patte       | 12.5  | 13   | 14 | 10.5 | 50    | FAIL |
| 62 | Mr. P. M. Zade        | 15    | 18.5 | 23 | 21.5 | 78    | PASS |
| 63 | Mr. P. S. Waghe       | 16.5  | 20   | 22 | 19   | 77.5  | PASS |
| 64 | Mr. P. S. Wanare      | 20.25 | 25.5 | 18 | 20.5 | 84.25 | PASS |
| 65 | Mr. R. G. Bongade     | 16.75 | 26   | 23 | 24   | 89.75 | PASS |
| 66 | Mr. R. G. Prabhakar   | 17    | 26.5 | 19 | 21   | 83.5  | PASS |
| 67 | Mr. R. R. Magar       | 3.75  | 7.5  | 12 | 12   | 35.25 | FAIL |
| 68 | Mr. R. S. Dhumale     | AB    | AB   | 0  | AB   | 0     | FAIL |



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

|    |                    |       |      |    |      |       |      |
|----|--------------------|-------|------|----|------|-------|------|
| 69 | Mr. R. S. Jawade   | 12.75 | 8    | 17 | 16   | 53.75 | FAIL |
| 70 | Mr. S. B. Fulmali  | 11    | 15   | 16 | 11.5 | 53.5  | FAIL |
| 71 | Mr. S. C. Borkar   | 15    | 17   | 19 | 18.5 | 69.5  | PASS |
| 72 | Mr. S. D. Dahare   | 21.5  | 25.5 | 20 | 26   | 93    | PASS |
| 73 | Mr. S. H. Gawali   | 9.5   | 12.5 | 15 | 15   | 52    | FAIL |
| 74 | Mr. S. R. Bokade   | 2.5   | 3    | 10 | 9    | 24.5  | FAIL |
| 75 | Mr. T. M. Khade    | 15.5  | 20   | 19 | 18   | 72.5  | PASS |
| 76 | Mr. Y. M. Karlekar | 15    | 20.5 | 17 | 15   | 67.5  | PASS |
| 77 | Mr. Y. R. Kondawar | 13    | 12.5 | 17 | 16.5 | 59    | FAIL |

|                       |        |        |        |        |        |
|-----------------------|--------|--------|--------|--------|--------|
| Appeared:             | 71     | 72     | 77     | 72     | 77     |
| Passed:               | 45     | 58     | 67     | 59     | 42     |
| Result in Percentage: | 63.38% | 80.56% | 87.01% | 81.94% | 54.55% |

Date 09/11/2023

Entered By:-  
(Mr. V. A. Rekhate)

Checked By:-  
Ms. S. P. Gautam & Dr. B. R. Gandhare

(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**

Borgaon (Meghe) Wardha

**INTERNAL MARKS (Average + Continuous Mode) , 2023 - 2024**

**B.PHARM-IV (Sem-VII)**

| S.N. | Name of Candidate   | Average Marks Theory             |                     |                   |                            | Average Marks Practical          | Total |
|------|---------------------|----------------------------------|---------------------|-------------------|----------------------------|----------------------------------|-------|
|      |                     | Instrumental Methods of Analysis | Industrial Pharmacy | Pharmacy Practice | Novel Drug Delivery System | Instrumental Methods of Analysis |       |
| 1    | Ku. A. M. Kolhe     | 15                               | 18                  | 16                | 16                         | 9                                | 74.00 |
| 2    | Ku. A. N. Shaikh    | 16                               | 21                  | 20                | 18                         | 12                               | 87.00 |
| 3    | Ku. A. P. Gote      | 17                               | 19                  | 19                | 17                         | 11                               | 83.00 |
| 4    | Ku. A. S. Talware   | 16                               | 14                  | 16                | 16                         | 9                                | 71.00 |
| 5    | Ku. A. S. Tinghase  | 16                               | 14                  | 20                | 16                         | 11                               | 77.00 |
| 6    | Ku. B. P. Thakare   | 10                               | 12                  | 17                | 13                         | 10                               | 62.00 |
| 7    | Ku. C. R. Shende    | 16                               | 17                  | 16                | 17                         | 12                               | 78.00 |
| 8    | Ku. D. N. Mandaokar | 6                                | 10                  | 16                | 12                         | 8                                | 52.00 |
| 9    | Ku. E. U. Kotharkar | 18                               | 19                  | 21                | 19                         | 12                               | 89.00 |
| 10   | Ku. G. S. Kawle     | AB                               | AB                  | AB                | AB                         | AB                               | 0.00  |
| 11   | Ku. I. S. Borkar    | 12                               | 16                  | 18                | 13                         | 11                               | 70.00 |
| 12   | Ku. J. S. Satone    | AB                               | AB                  | AB                | AB                         | AB                               | 0.00  |
| 13   | Ku. K. D. Bele      | 18                               | 18                  | 18                | 18                         | 10                               | 82.00 |
| 14   | Ku. K. R. Raut      | 21                               | 22                  | 22                | 18                         | 12                               | 95.00 |
| 15   | Ku. K. S. Thakare   | 20                               | 22                  | 19                | 21                         | 11                               | 93.00 |
| 16   | Ku. L. S. Mahajan   | 15                               | 18                  | 21                | 20                         | 11                               | 85.00 |
| 17   | Ku. M. G. Sayam     | 14                               | 19                  | 20                | 19                         | 10                               | 82.00 |
| 18   | Ku. M. N. Hatwar    | 10                               | 12                  | 13                | 12                         | 11                               | 58.00 |
| 19   | Ku. M. R. Verma     | 15                               | 14                  | 21                | 17                         | 10                               | 77.00 |
| 20   | Ku. P. R. Umate     | 19                               | 19                  | 21                | 17                         | 11                               | 87.00 |
| 21   | Ku. P. V. Lanjekar  | 6                                | 10                  | 13                | 10                         | 8                                | 47.00 |
| 22   | Ku. R. K. Umathe    | 18                               | 17                  | 20                | 19                         | 10                               | 84.00 |
| 23   | Ku. R. M. Shidodkar | 19                               | 19                  | 21                | 19                         | 12                               | 90.00 |
| 24   | Ku. R. P. Deshpande | AB                               | AB                  | AB                | AB                         | AB                               | 0.00  |



*(Signature)*  
(Dr. R. O. Ganjiwale)

**Principal**  
**PRINCIPAL**  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha

|    |                       |    |    |    |    |    |       |
|----|-----------------------|----|----|----|----|----|-------|
| 25 | Ku. R. S. Khurpade    | 11 | 18 | 18 | 14 | 10 | 71.00 |
| 26 | Ku. R. S. Raut        | 7  | 13 | 18 | 12 | 10 | 60.00 |
| 27 | Ku. R. V. Bhale       | 15 | 16 | 18 | 20 | 12 | 81.00 |
| 28 | Ku. S. M. Yadav       | 20 | 20 | 21 | 19 | 10 | 90.00 |
| 29 | Ku. S. N. Deshmukh    | 14 | 16 | 19 | 17 | 10 | 76.00 |
| 30 | Ku. S. P. Tapre       | 8  | 7  | 13 | 9  | 9  | 46.00 |
| 31 | Ku. S. R. Chahande    | 19 | 17 | 20 | 18 | 11 | 85.00 |
| 32 | Ku. S. R. Thakare     | 14 | 15 | 18 | 15 | 11 | 73.00 |
| 33 | Ku. S. R. Tiwari      | 12 | 16 | 17 | 15 | 11 | 71.00 |
| 34 | Ku. S. S. Ahirrao     | 16 | 18 | 18 | 18 | 11 | 81.00 |
| 35 | Ku. S. S. Misalkar    | 16 | 18 | 18 | 18 | 10 | 80.00 |
| 36 | Ku. S. S. Nimbalkar   | 12 | 14 | 19 | 17 | 9  | 71.00 |
| 37 | Ku. S. T. Yedlawar    | 15 | 17 | 18 | 15 | 10 | 75.00 |
| 38 | Ku. S. V. Bhoyar      | 10 | 11 | 16 | 9  | 8  | 54.00 |
| 39 | Ku. S. V. Dhok        | 14 | 16 | 21 | 18 | 10 | 79.00 |
| 40 | Ku. Sakshi Raut       | 18 | 17 | 17 | 16 | 11 | 79.00 |
| 41 | Ku. Shreya Raut       | 12 | 14 | 16 | 14 | 9  | 65.00 |
| 42 | Ku. T. R. Dhage       | 18 | 16 | 19 | 18 | 11 | 82.00 |
| 43 | Ku. T. R. Hukum       | 20 | 19 | 20 | 18 | 10 | 87.00 |
| 44 | Ku. T. U. Moon        | 14 | 12 | 18 | 15 | 11 | 70.00 |
| 45 | Ku. U. S. Gawande     | AB | AB | AB | AB | AB | 0.00  |
| 46 | Ku. V. A. Kshirsagar  | 11 | 17 | 18 | 12 | 9  | 67.00 |
| 47 | Ku. V. D. More        | 20 | 20 | 21 | 20 | 12 | 93.00 |
| 48 | Ku. V. D. Shrivastava | 21 | 21 | 20 | 22 | 11 | 95.00 |
| 49 | Ku. V. N. Deshmukh    | 19 | 20 | 23 | 19 | 12 | 93.00 |
| 50 | Ku. V. R. Sushir      | 16 | 17 | 20 | 17 | 11 | 81.00 |
| 51 | Ku. Y. D. Kude        | 18 | 22 | 21 | 22 | 11 | 94.00 |
| 52 | Mr. A. C. Darda       | 9  | 12 | 15 | 13 | 9  | 58.00 |
| 53 | Mr. A. K. Kinhekar    | 8  | 8  | 13 | 12 | 9  | 50.00 |
| 54 | Mr. A. N. Dahake      | 9  | 11 | 14 | 11 | 9  | 54.00 |
| 55 | Mr. G. M. Sukhadiya   | 12 | 13 | 19 | 15 | 9  | 68.00 |
| 56 | Mr. H. C. Butale      | 13 | 13 | 15 | 14 | 12 | 67.00 |



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



|    |                     |    |    |         |    |  |    |       |
|----|---------------------|----|----|---------|----|--|----|-------|
| 57 | Mr. J. S. Kadu      | 8  | 4  | 12      | 9  |  | 7  | 40.00 |
| 58 | Mr. M. A. Hydri     | 9  | 12 | 17      | 11 |  | 7  | 56.00 |
| 59 | Mr. N. O. Dhanbhate | 10 | 12 | 17      | 11 |  | 8  | 58.00 |
| 60 | Mr. N. S. Chhajed   | 12 | 14 | 17      | 16 |  | 10 | 69.00 |
| 61 | Mr. O. P. Patte     | 11 | 11 | 9       | 9  |  | 7  | 47.00 |
| 62 | Mr. P. M. Zade      | 12 | 15 | 16      | 17 |  | 9  | 69.00 |
| 63 | Mr. P. S. Waghe     | 12 | 14 | 17      | 12 |  | 11 | 66.00 |
| 64 | Mr. P. S. Wanare    | 17 | 21 | 15      | 17 |  | 11 | 81.00 |
| 65 | Mr. R. G. Bongade   | 17 | 21 | 19      | 18 |  | 11 | 86.00 |
| 66 | Mr. R. G. Prabhakar | 16 | 19 | 17      | 18 |  | 12 | 82.00 |
| 67 | Mr. R. R. Magar     | 5  | 5  | (16) 11 | 8  |  | 7  | 41.00 |
| 68 | Mr. R. S. Dhumale   | 0  | AB | AB      | AB |  | AB | 0.00  |
| 69 | Mr. R. S. Jawade    | 9  | 10 | 15      | 14 |  | 7  | 55.00 |
| 70 | Mr. S. B. Fulmali   | 10 | 12 | 15      | 12 |  | 10 | 59.00 |
| 71 | Mr. S. C. Borkar    | 10 | 14 | 16      | 13 |  | 9  | 62.00 |
| 72 | Mr. S. D. Dahare    | 19 | 20 | 19      | 19 |  | 11 | 88.00 |
| 73 | Mr. S. H. Gawali    | 10 | 12 | 12      | 12 |  | 8  | 54.00 |
| 74 | Mr. S. R. Bokade    | 7  | 5  | 10      | 8  |  | 7  | 37.00 |
| 75 | Mr. T. M. Khade     | 16 | 15 | 17      | 15 |  | 10 | 73.00 |
| 76 | Mr. Y. M. Karlekar  | 15 | 16 | 16      | 13 |  | 10 | 70.00 |
| 77 | Mr. Y. R. Kondawar  | 11 | 10 | 14      | 11 |  | 8  | 54.00 |

Note : If any discrepancy is observed bring it to the notice of Examination In-Charge in writing before 10/11/2023 upto 2.00 p.m.  
Date :09/11/2023

Entered By:-  
(Mr. V. A. Rekhate)

Checked By:-  
Ms. S. P. Gautam & Dr. B. R. Gandhare

(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha



(Dr. R. O. Ganjiwale)  
Principal  
PRINCIPAL  
Institute of Pharmaceutical Education & Research  
Borgaon (Meghe), Wardha